



Losing Ground: NIH Funding to New York State Researchers

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New York State, once the unquestioned leader in biomedical research, has seen its share of research funding from the National Institutes of Health (NIH) diminish markedly in the past decade.

The NIH represents the single largest source of funding for biomedical research in the United States, and plays a pivotal role in seeding and developing the research community. Funding awarded by the NIH for biomedical research in the United States increased more than three-fold, from nearly \$2.5 billion in 1981 to almost \$8 billion in 1995. However, during this interval New York's share of total NIH funding dropped 27%.

What happened in New York?

New York's Long Slide

New York State institutions continued to receive a major share of national research dollars throughout this period (Appendix). But the state as a whole lagged well behind the national NIH growth rate and actually lost significant ground in quantifiable ways. This slide from pre-eminence can be traced in both the number of researchers funded in the state and the volume of money supporting their work.

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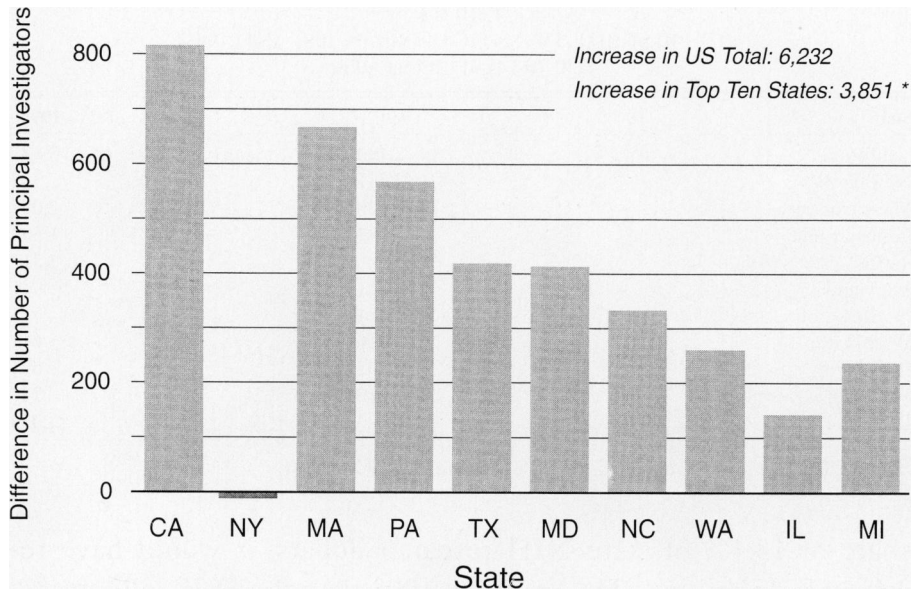


FIG. 1. Change in number of NIH principal investigators, 1981 compared with 1995. Funded states ranked 1 to 10 in 1995. *Excludes New York. Excludes investigators without valid Social Security numbers, approximately 2% of the total. (Source data from the National Institutes of Health IMPAC system.)

Researchers

New York State had fewer NIH-funded research scientists (principal investigators) in 1995 than it did in 1981 (Fig. 1). New York was the only major research state in the country to suffer this decline. Comparing 1981 and 1995, the number of scientists funded by NIH nationwide increased 37%, from 16,823 to 23,055. Together, all the other top 10 funded states had an average 47% increase (range: 20% to 79%) in funded researchers.

In New York, the number of funded researchers dropped from 2,337 in 1981—then the highest total for any state in the nation—to 2,325 in 1995 (Table I). Whereas the decrease in New York was small in number (12 scientists), all other major research states had net increases, ranging from 142 (Illinois) to 815 (California).

Dollars

New York's share of NIH funding slid from 15.1% to 11.1% during this period (Table II). Had New York maintained its 1981

TABLE I
 NIH PRINCIPAL INVESTIGATORS IN 1981 AND 1995:
 TOP 10 FUNDED STATES

State	1981	1995
California	2,190	3,005
New York	2,337	2,325
Massachusetts	1,430	2,097
Pennsylvania	983	1,551
Texas	900	1,317
Maryland	521	931
North Carolina	521	855
Washington	410	671
Illinois	702	844
Michigan	510	747
US Total	16,823	23,055

(Source data from the National Institutes of Health IMPAC system.)

share of 15.1% of state NIH research dollars, it would have received \$315 million (35%) more in 1995 than the \$875 million that did come into the state. Those research dollars, and the opportunities they represent, were lost and went to other states.

For decades, New York's research community ranked first in the

TABLE II
 DECLINING SHARE OF NIH RESEARCH FUNDING:
 NEW YORK STATE INSTITUTIONS

Year	New York Share of NIH Total (%)	Lost Opportunity Income* (\$ million)
1995	11.1	(315.0)
1994	11.6	(265.8)
1993	11.7	(244.9)
1992	12.2	(203.8)
1991	12.4	(175.3)
1990	12.7	(142.1)
1989	13.1	(111.5)
1988	13.5	(81.5)
1987	13.8	(61.1)
1986	14.0	(43.5)
1985	14.5	(22.8)
1984	14.9	(6.5)
1983	15.2	2.8
1982	15.1	(0.0)
1981	15.1	**

* Difference between actual current dollars received and expected current dollars based on 1981 parity. ** Base year. No loss or gain. (Source data from the National Institutes of Health IMPAC system.)

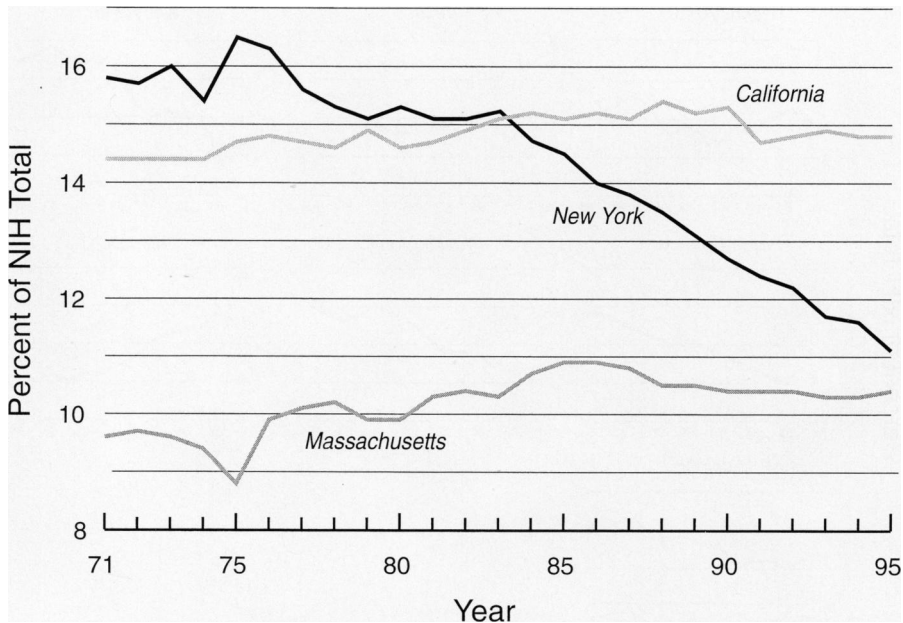


FIG. 2. Trends in NIH research grant support to 3 most funded states, 1995 rankings. Denominator includes all 50 states and the District of Columbia. (Source data from the National Institutes of Health IMPAC system.)

competition for NIH funding. In recent years, three states—California, New York, and Massachusetts—have had the largest numbers of biomedical researchers in the nation, accounting for more than a third of all NIH extramural research grants. The trends over the past 15 years show that New York started out with the largest share but began to decline in the mid-1980s (Fig. 2). In contrast, California and Massachusetts have maintained their proportions of NIH funding.

NIH funding trends for the other states in the top 10 show that only one other state, Illinois, has failed to increase its share of NIH funding during the period in question (Fig. 3). Pennsylvania, Texas, Maryland, North Carolina, Washington, and Michigan all showed varying amounts of growth over this period of observation. Looking at the top 25 funded states, New York suffered the greatest loss, with a 27% reduction, Illinois's share dropped by 15%, and Connecticut's share fell 12% (Fig. 4). Washington, North Carolina, Maryland, Georgia, and Colorado all showed increases in

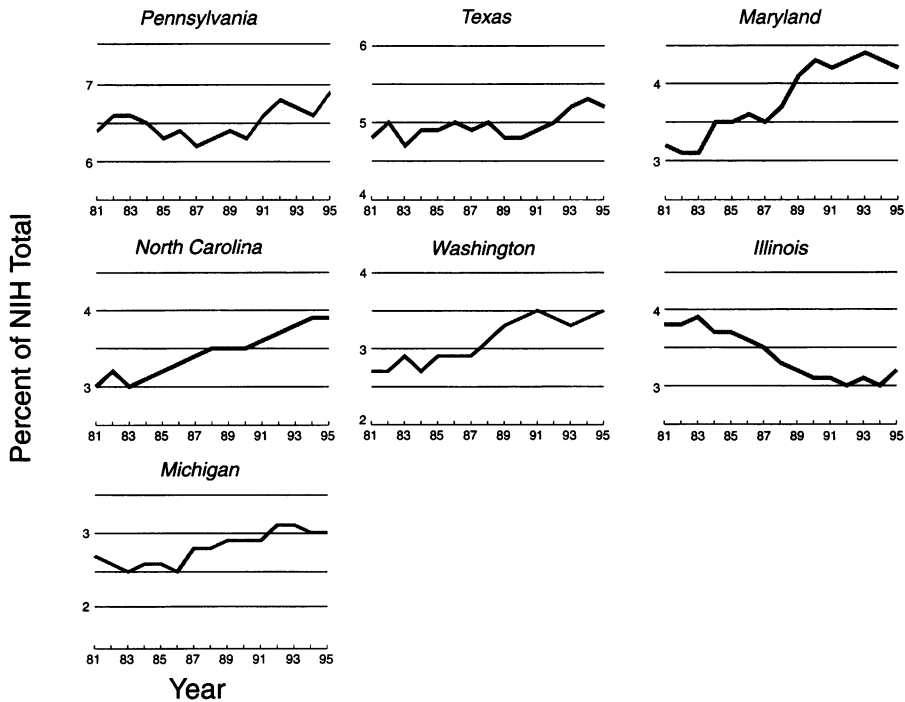


FIG. 3. Trends in NIH research grant support to other top 10 funded states, 1995 rankings. Denominator includes all 50 states and the District of Columbia. (Source data from the National Institutes of Health IMPAC system.)

excess of 20%. The variation in growth observed is not strongly related to each state's funding rank, geographical location, or population change, however.

The top six recipients of NIH funding in New York State are medical schools, which receive more than half of the state's NIH research dollars. NIH funding trends for New York's medical schools show a nearly continuous decline since 1984 (Fig. 5). This decline in funding affects medical schools in all parts of the state, and includes both large and small institutions. Funding shares at other types of institutions began to decline even earlier than medical school funding.

Insufficient Growth in Applicants

The decline in New York's share of NIH research funding is linked closely to insufficient growth in the number of scientists

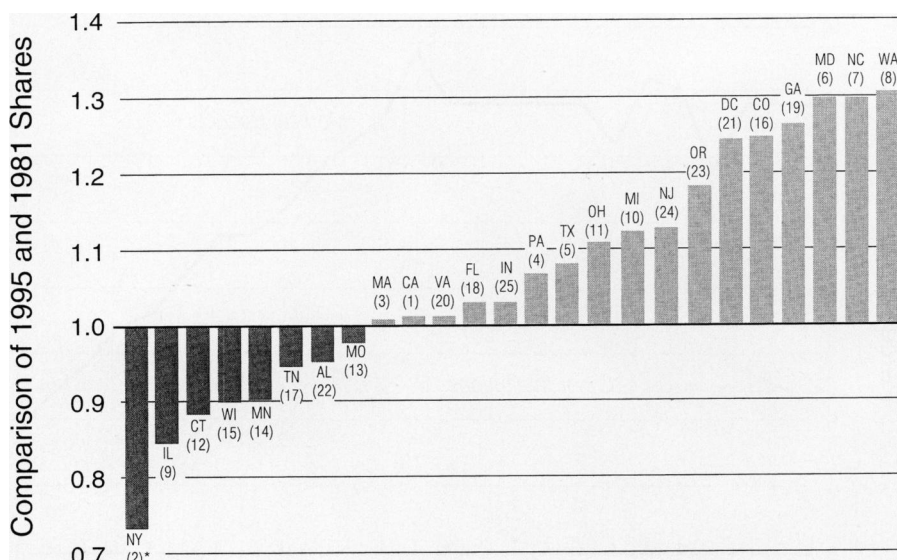


FIG. 4. Change in state shares of NIH research grant support. Top 25 funded states, including the District of Columbia, 1995 compared with 1981 (number in parentheses indicates 1995 ranking). Denominator includes all 50 states and the District of Columbia. (Source data from the National Institutes of Health IMPAC system.)

engaged in biomedical research in the state. Comparing 1981 and 1995, the number of NIH applicants nationwide increased by 38%, from 15,668 to 21,552. In New York, the number of applicants in 1995 was only 10% greater than in 1981. The other top 10 funded states had increases ranging from 30 to 80%, averaging 49%. Over this 15-year period, New York's share of NIH applicants fell from 13.5% to 10.8%.

Partly as a result of New York's insufficient growth in applicant scientists, its number of successful (funded) applicants in 1995 was 10% lower than it was in 1981. In all of the other top 10 funded states this key indicator increased when comparing 1995 with 1981 (Fig. 6).¹

¹This comparison reflects the number of applicants who won grant approval in a given year, whereas the number cited earlier, a state's number of funded research scientists, represents the total number of lead scientists, or principal investigators, with new as well as continuing grants awarded in previous years.

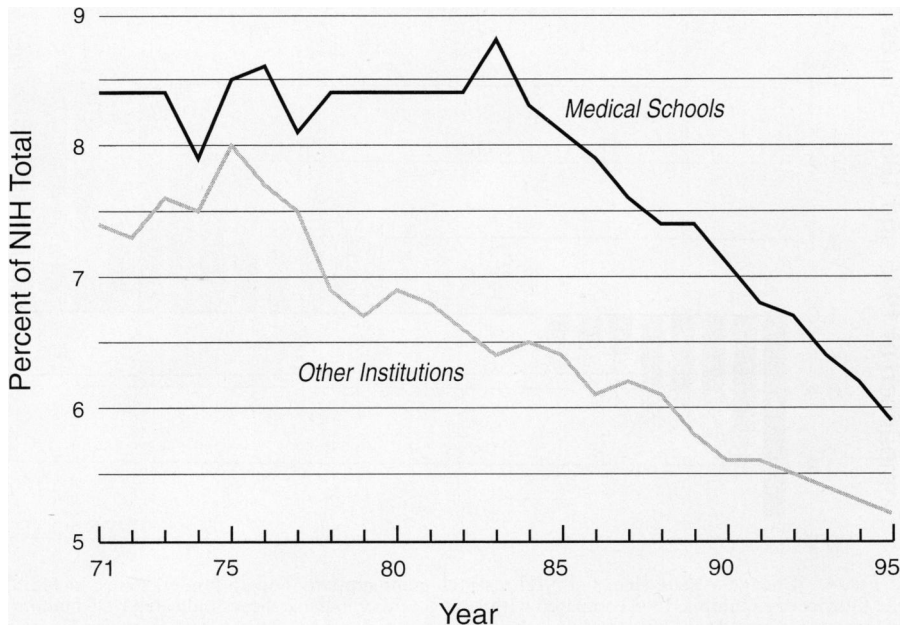


FIG. 5. Trends in NIH research grant support to New York medical schools and other institutions. (Source data from the National Institutes of Health IMPAC system.)

An Investment Strategy is Needed

New York's biomedical research enterprise has important implications for the economy of the state, as well as for the future of its academic medical community. When biomedical research declines, the industries and institutions it feeds with knowledge and information also suffer. Academia, government and the private sector must, therefore, work together to find solutions, not only to arrest the decline in research, but to improve the state's economic climate. Government can create an environment conducive to enterprise, but all sectors must work together to use that climate optimally.

New York faces a critical situation. The data available clearly indicate that New York's position will worsen in the coming years unless effective action is taken now. Based on current trends in new NIH research grant awards, 1996–1998 data are very likely to show New York continuing to decline in its share of funded

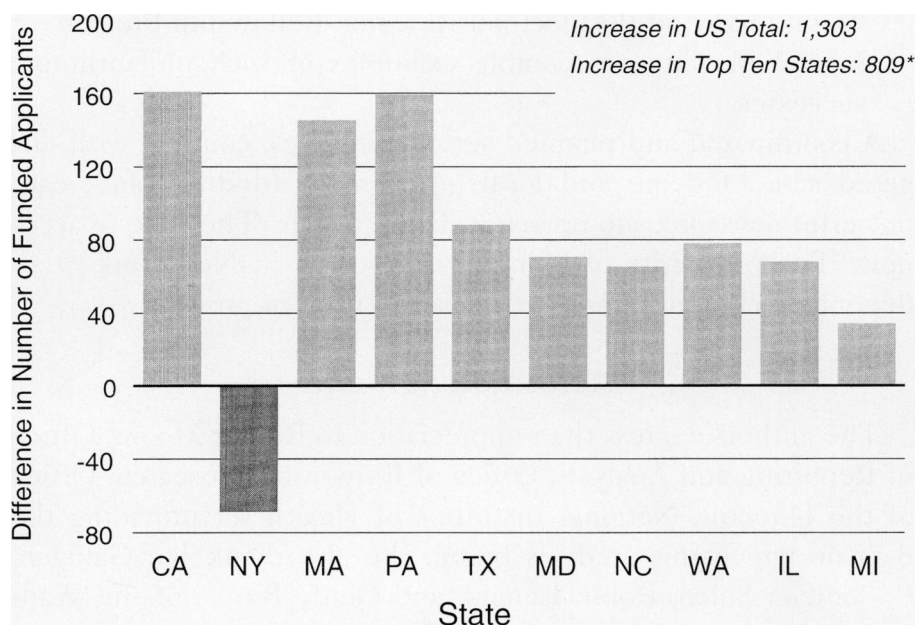


FIG. 6. Change in number of NIH funded applicants, 1981 compared with 1995. Funded states ranked 1 to 10, 1995 rankings. * Excludes New York. Excludes investigators without valid Social Security numbers, approximately 2% of the total. (Source data from the National Institutes of Health IMPAC system.)

scientists. To reverse the current trend and increase New York State's share of NIH funding, several steps should be considered.

- The research environment may need to be improved to enlarge the state's number of outstanding biomedical researchers. Attracting original and productive researchers has a cascading effect, but requires a strong financial and institutional commitment on the part of New York State's academic medical community and other biomedical research institutions.
- Establishment of a health research trust fund could form another key element in the strategy to renew New York State's position in biomedical research. A fund can enable, facilitate, and focus resources, such as those that may be emerging from the conversion of not-for-profit health-care insurers to for-profit underwriters, or from the savings achieved by institutional mergers.
- Individual philanthropies can also make an enormous difference. The Aaron Diamond AIDS Research Center and the

Aaron Diamond Postdoctoral Research Fellowship Program in New York City are notable examples of such philanthropic successes.

A coordinated and planned set of initiatives, coupled with targeted state, federal, and local government funding can create powerful new forces to reverse existing trends. The time to act is now. The prosperity of biomedical research in New York State depends on commitments to a shared vision of growth.

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APPENDIX NIH RESEARCH FUNDING: NATIONAL AND NEW YORK STATE TRENDS

Year	National NIH Research Funding* (\$ million)	New York State NIH Research Funding* (\$ million)
1995	7,874	875
1994	7,593	878
1993	7,202	846
1992	7,028	860
1991	6,493	805
1990	5,919	750
1989	5,575	733
1988	5,095	689
1987	4,703	647
1986	3,959	556
1985	3,792	549
1984	3,259	484
1983	2,840	433
1982	2,532	382
1981	2,466	373

* Excludes Training, Fellowship, and Contractual Awards. Based on funding to the 50 states and the District of Columbia. (Data from the National Institutes of Health IMPAC system.)